

**Remarks**

Claims 1-22 are pending.

*Rejection of Claims under 35 U.S.C. § 102/103*

Claims 1, 4, 6-10, 14, 16, 18 and 20-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lofthouse-Zeis et al., U.S. Patent No. 5,754,574 (Lofthouse-Zeis). The applicants respectfully traverse these rejections. Claims 2, 3, 5, 11-13, 15, 17, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lofthouse-Zeis in view of Abeles et al., U.S. Patent No. 6,014,237 (Abeles).

Lofthouse-Zeis neither teaches nor suggests a method comprising:

operating the thermo-electric cooler in one of at least a low power mode and a standard mode, the laser diode configured to transmit signals in the low power mode and the standard mode; and

switching between the low power mode and the standard mode, wherein:

the low power mode maintains the laser diode at a temperature within a predetermined range of temperatures; and

the standard mode maintains the laser diode at a temperature that corresponds to a predetermined wavelength of light output from the laser diode,

as required by independent claim 1 and generally required by independent claims 9 and 14.

Regarding the claimed low power mode of operation of the thermo-electric cooler, the Examiner refers generally to the state of regulation circuit 16 when the temperature set point 17 is applied. More specifically, the Examiner states that “the initial temperature of the thermo-electric cooler (13) is regulated at a predetermined set point temperature . . . which is considered a low power mode . . . .” Office Action of April 9, 2003, p. 2, ¶3. The applicants respectfully submit that the Examiner has provided no justification for his conclusion that setting thermo-electric cooler 13 at a set point establishes a “low power mode” as claimed by the applicants. Moreover, the applicants respectfully submit that the particular parts of the cited reference that the

Examiner has relied upon have not been designated as nearly as practicable, and the pertinence of the reference has not been clearly explained, both as required by 37 C.F.R. § 1.104(c)(2). The applicants note that the Examiner makes a broad reference to column 3, line 44 through column 6, line 37 of Lofthouse-Zeis. This section of Lofthouse-Zeis is the entire detailed description of the reference.

Additionally, there is nothing in Lofthouse-Zeis teaching or suggesting a low power mode that is distinct from the claimed standard mode of operating the thermo-electric cooler. Regarding the claimed standard mode, the Examiner states that “the temperature correction loop (18), maintains the laser diode at a temperature that corresponds to a predetermined wavelength of light output detected by the optical sensor (23) from the laser diode, is functioning as a standard mode . . . .” Office Action of April 9, 2003, p. 2, ¶3. However, Lofthouse-Zeis makes clear that the set-point temperature state of thermo-electric cooler 13 and the state of thermo-electric cooler 13 when temperature correction loop 18 operates do not represent distinct operating modes, but rather are part of the same operating mode:

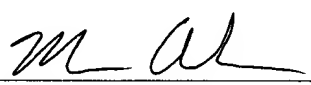
The initial temperature of the laser diode 12 is regulated at a predetermined set-point temperature, as determined by a user input 17, to produce the desired spectral output.

If the temperature of the diode 12 is held constant at the set-point temperature while the drive current is adjusted, the spectral output of the diode will shift away from the desired value. To maintain the desired spectral output after the drive current has been adjusted, a temperature correction loop 18 is added to the diode system. Temperature correction loop 18 includes a current sensor 20 that senses the amplitude of the drive current supplied to the laser diode 12, and a temperature correction circuit 22 that supplies a temperature correction signal to the temperature regulation circuit 16 in response to the current sensor 20. *The temperature regulation circuit 16 changes the temperature of the diode 12 away from the set point temperature in response to the signal from the temperature correction circuit 22.* (Column 3, line 57 through column 4, line 7, emphasis added)

Thus, Lofthouse-Zeis neither teaches nor suggest the two operation modes or the “switching between the low power mode and the standard mode,” but rather discloses a single mode of operation.

Accordingly, the applicants respectfully submit that independent claims 1, 9, and 14 are allowable over Lofthouse-Zeis. Claims 2-8 depend from claim 1 and are allowable for at least this reason. Claims 10-13 depend from claim 9 and are allowable for at least this reason. Claims 15-22 depend from claim 14 and are allowable for at least this reason.

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop: Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450, on <u>July 9</u> , 2003.	
 Attorney for Applicant(s)	<u>7/9/03</u> Date of Signature

Respectfully submitted,



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